

WHAT IS CLAIMED IS

1. A data processing method for storing or transmitting a plurality of object data respectively corresponding to a plurality of objects which compose a scene and including object data as video data or audio data, and scene description data which describes how the plurality objects compose the scene, said method comprising:

an encryption step for encrypting at least object data corresponding to specified objects which are predetermined among the plurality of objects; and

a data output step for outputting respective object data and the scene description data to a storage medium or a transmission medium.

2. The data processing method of Claim 1, wherein in said data output step, encryption identifiers each indicating whether or not object data of a corresponding object included in the plurality of objects has been encrypted, are stored in the scene description data and output to the storage medium or the transmission medium.

3. The data processing method of Claim 1, wherein in said data output step, control information required for encryption is stored in the scene description data and output to the storage medium or the transmission medium.

4. The data processing method of Claim 1, wherein in said encryption step, only object data of the specified objects which is predetermined among the scene description data and the plurality of object data, is encrypted.

5. The data processing method of Claim 1, wherein in said encryption step, when encrypting the object data of the specified objects, plural different control information for the respective specified objects is used as control information required for encrypting the respective object data.

6. The data processing method of Claim 1, wherein in said encryption step, a type of control information required for encryption is changed with elapse of time after encryption of the object data starts.

7. A data processing method for storing or transmitting a plurality of object data respectively corresponding to a plurality of objects which compose a scene and including object data as video data or audio data, and scene description data which describes how the plurality objects compose the scene, said method comprising:

a compression step for compressing object data

corresponding to each of the plurality of objects which compose the scene and outputting compressed object data;

an encryption step for sequentially encrypting at least compressed object data corresponding to specified objects which are predetermined among the plurality of objects, according to control information for encryption of respective object data corresponding to the specified objects; and

a data output step for outputting respective compressed object data and the scene description data to the storage medium or the transmission medium, wherein

in said encryption step, control information for a target object corresponding to object data to be encrypted is encrypted according to control information for an encrypted object corresponding to previously encrypted object data, and encrypted control information is added to the previously encrypted object data.

8. A data processing method for storing or transmitting a plurality of object data respectively corresponding to a plurality of objects which compose a scene and including object data as video data or audio data, and scene description data which describes how the plurality objects compose the scene, said method comprising:

a compression step for compressing object data

an encryption step for sequentially encrypting at least compressed object data corresponding to specified objects which are predetermined among the plurality of objects according to first control information for encryption; and

said encryption step includes encrypting the first control information according to second control information for encryption, dividing encrypted first control information into a plurality of information parts respectively corresponding to the specified objects, and adding the plurality of information parts to the object data of the specified objects, respectively.

9. A data processing apparatus for storing or transmitting a plurality of object data respectively corresponding to a plurality of objects which compose a scene and including object data as video data or audio data , and scene description data which describes how the plurality objects compose the scene, said apparatus comprising:

a plurality of data/compression means respectively
provided for the plurality/of objects, for compressing

multiplexing means for multiplexing the scene description data and the respective compressed object data as individual streams and outputting a multiplexed bit stream; and

the encrypted bit stream is output to the data storage medium or the data transmission medium.

10. A data processing method which reads an encrypted bit stream from a storage medium or receives the encrypted bit stream through a transmission medium and performs reproduction of the encrypted bit stream, the encrypted bit stream being obtained by encrypting at least object data corresponding to specified objects which is predetermined among a plurality of object data respectively corresponding to a plurality of objects which compose a scene and including object data as video data or audio data and scene description data which describes how the plurality of objects compose the scene, said method comprising:

a decision step for deciding whether or not the scene

description data and the respective object data have been encrypted, and

a reproduction step for decrypting encrypted data of the encrypted bit stream and displaying respective object data, according to a decision result of said decision step.

11. A data processing apparatus which reads an encrypted bit stream from a storage medium or receives the encrypted bit stream through a transmission medium and performs reproduction of the encrypted bit stream, the encrypted bit stream being obtained by encrypting at least object data corresponding to specified objects which is predetermined among a plurality of object data respectively corresponding to a plurality of objects which compose a scene and including object data as video data or audio data, and scene description data which describes how the plurality of objects compose the scene, said apparatus comprising:

decryption means for decrypting encrypted scene description data or encrypted object data included in the encrypted bit stream according to a first control signal, to produce decrypted data; and

display means for displaying the scene based on the decrypted data according to a second control signal; and

control means for controlling said decryption means and
said display means by using the first and second control

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13. A data storage medium for storing digital data used for reproducing a scene, wherein

said digital data includes a plurality of object data respectively corresponding to a plurality of objects which compose the scene and including object data as video data

14. A data processing method which reads an encrypted bit stream from a storage medium or receives the encrypted bit stream through a transmission medium and performs reproduction of the encrypted bit stream, the encrypted bit stream being obtained by encrypting at least object data corresponding to specified objects which is predetermined among a plurality of object data respectively corresponding to a plurality of objects which compose a scene and including object data as video data or audio data and scene description data which describes how the plurality of objects compose the scene, said method comprising the steps of:

15. A data processing method which reads an encrypted bit

stream from a storage medium or receives the encrypted bit stream through a transmission medium and performs reproduction of the encrypted bit stream, the encrypted bit stream being obtained by compressing a plurality of object data respectively corresponding to a plurality of objects which compose a scene and including object data as video data or audio data, to produce a plurality of compressed object data, and by encrypting at least compressed object data corresponding to specified objects which is predetermined among the plurality of compressed object data and scene description data which describes how the plurality of objects compose the scene, said method comprising the steps of:

deciding whether or not compressed and encrypted object data corresponding to the specified objects is reproducible; and

performing reproduction of all object data including decryption of the compressed and encrypted object data corresponding to the specified objects, and decompression and display of the respective compressed object data when deciding that the compressed and encrypted object data is reproducible.

16. The data processing method of Claim 15, wherein when deciding that the compressed and encrypted object data is reproducible, the compressed and encrypted object

data corresponding to all the specified objects can be read from the storage medium or can be received through the transmission medium.

17. The data processing method of Claim 15, wherein when deciding that the compressed and encrypted object data is reproducible, the scene description data has been read from the storage medium or received through the transmission medium, and the compressed and encrypted object data corresponding to all the specified objects can be read from the storage medium or can be received through the transmission medium.

18. The data processing method of Claim 15, wherein when deciding that the compressed and encrypted object data is reproducible, the scene description data has been read from the storage medium or received through the transmission medium and all object data including the compressed and encrypted object data corresponding to the specified objects can be read from the storage medium or can be received through the transmission medium.

19. The data processing method of Claim 15, wherein when deciding that the compressed and encrypted object data is reproducible, the scene description data and object

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data corresponding to all objects which compose the scene have been read from the storage medium or received through the transmission medium.

20. A data processing method which reads an encrypted bit stream from a storage medium or receives the encrypted bit stream through a transmission medium and performs reproduction of the encrypted bit stream, the encrypted bit stream being obtained by compressing a plurality of object data respectively corresponding to a plurality of objects which compose a scene and including object data as video data or audio data, to produce a plurality of compressed object data, and by encrypting at least compressed object data corresponding to specified objects which is predetermined among the plurality of compressed object data and scene description data which describes how the plurality of objects compose the scene, said method comprising:

a data production step for decrypting the encrypted bit stream to produce compressed object data corresponding to the specified objects; and

a decompression step for decompressing compressed object data corresponding to all objects which compose the scene, to produce restored object data, wherein

in said decompression step, the restored object data corresponding to all objects is written onto reference

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21. A data processing method which reads an encrypted bit stream from a storage medium or receives the encrypted bit stream through a transmission medium and performs reproduction of the encrypted bit stream, the encrypted bit stream being obtained by compressing a plurality of object data respectively corresponding to a plurality of objects which compose a scene and including object data as video data or audio data, to produce a plurality of compressed object data, and by encrypting at least compressed object data corresponding to specified objects which is predetermined among the plurality of compressed object data and scene description data which describes how the plurality of objects compose the scene, said method comprising:

a data production step for decrypting the encrypted bit stream to produce compressed object data corresponding to the specified objects; and

a decompression step for decompressing the compressed object data corresponding to all objects which compose the

in said decompression step, restored object data of the respective objects is written onto corresponding reference memories and read from the corresponding reference memories in such a way that each of the restored object data is written onto a corresponding reference memory after it is subjected to secondary encryption and each of the restored object data is read from the corresponding reference memory and then subjected to decryption for decrypting the secondary encryption.

decryption means for decrypting the encrypted bit

a plurality of data decompression means respectively provided for the plurality of objects, for decompressing corresponding compressed object data included in the decrypted data, to produce decompressed object data; and

each of said plurality of data decompression means includes an encryption unit for subjecting the decompressed object data to secondary encryption before it is output to a corresponding memory, and a decryption unit for decrypting the secondary encryption of the decompressed object data after it is read from the corresponding memory.

23. A data processing method which reads an encrypted bit stream from a storage medium or receives the encrypted bit stream through a transmission medium and performs reproduction of the encrypted bit stream including display of an image, the encrypted bit stream being obtained by encrypting at least object data corresponding to specified objects which is predetermined among a plurality of object data respectively corresponding to a plurality of objects which compose a scene and including object data as video data or audio data and scene description data which describes how

the plurality of objects compose the scene, said method comprising:

extracting the scene description data from the encrypted bit stream; and

limiting display such that an image based on the object data corresponding to each of the specified objects is prevented from being displayed individually, according to the scene description data.

24. A data processing method which reads an encrypted bit stream from a storage medium or receives the encrypted bit stream through a transmission medium and performs reproduction of the encrypted bit stream including display of an image, the encrypted bit stream being obtained by encrypting at least object data corresponding to specified objects which is predetermined among a plurality of object data respectively corresponding to a plurality of objects which compose a scene and including object data as video data or audio data and scene description data which describes how the plurality of objects compose the scene, said method comprising the steps of:

deciding whether or not encrypted object data corresponding to all the specified objects has been decrypted; and

displaying the image based on the object data

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